



tienchiu.com



WSU EXTENSION
Cowlitz County

Saving Seeds

Let's begin the journey

WSU Cowlitz County Extension
Master Gardener Program





Mission

Engaging university-trained volunteers to empower and sustain diverse communities with relevant, unbiased, research-based horticulture and environmental stewardship education.

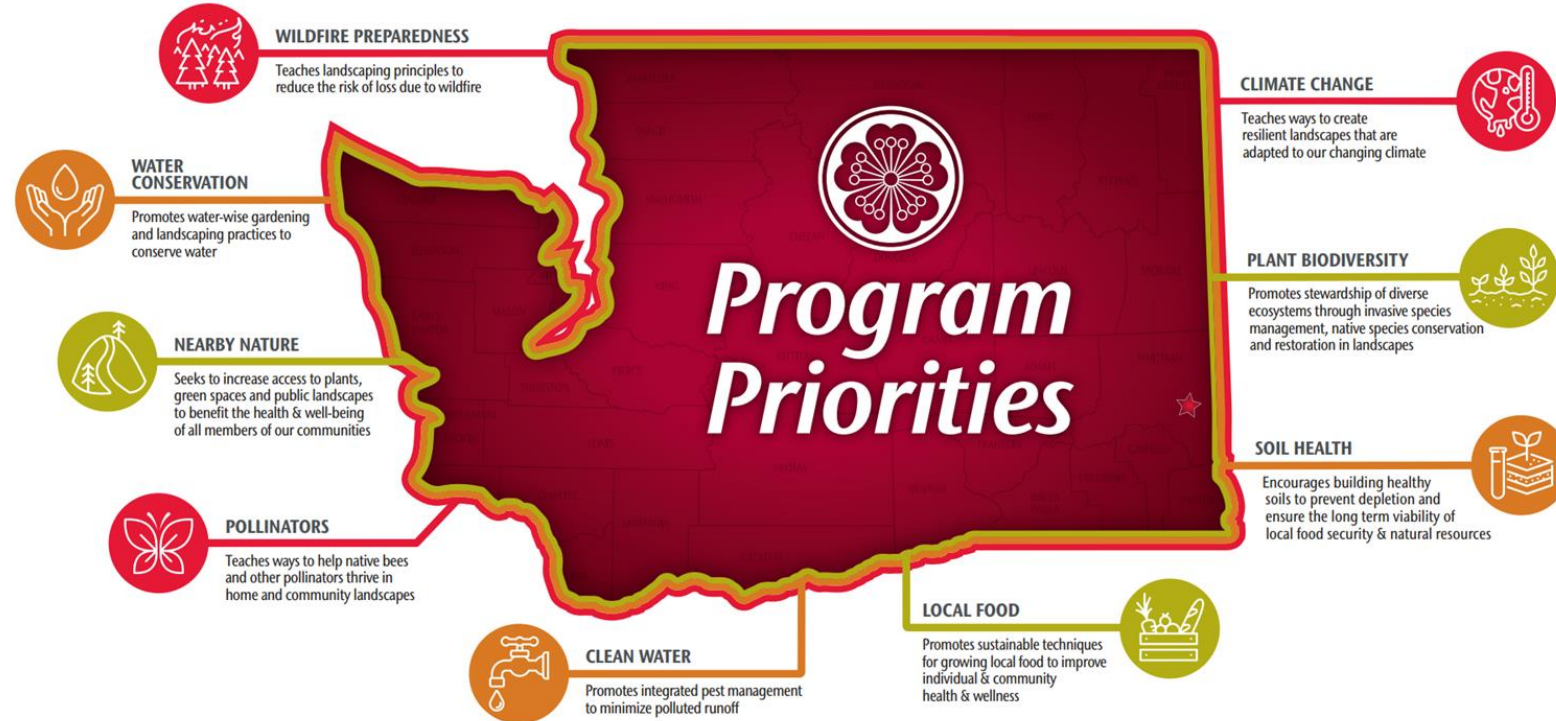




Become a Master Gardener

WSU Master Gardener Program

Cultivating Plants, People & Communities Since 1973



New Training Class Starts Jan. 2023

Call Gary Fredricks
360-577-3014

garyf@wsu.edu

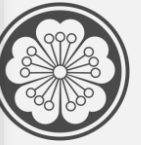
Become a volunteer mastergardener.wsu.edu



Master Gardener Program

WASHINGTON STATE UNIVERSITY
EXTENSION

May	cowlitzcomg.com/public-events	
23		Moles
30		Tomatoes
June		
6		Native Plants in Landscaping
13		Drip Irrigation
20		Choosing Landscape plants
July		
11		Solving Summer Garden Problems
18		Summer Watering
25		Deer and Elk management



Visit our website
Tons of great gardening information
Recordings and slides from past workshops.
cowlitzcomg.com/workshops-videos



UPCOMING WORKSHOPS



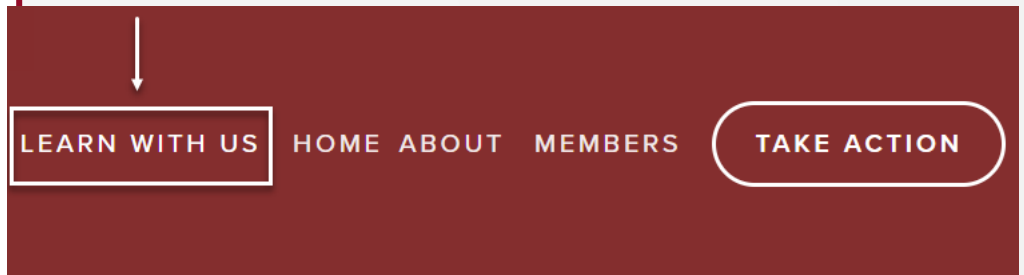
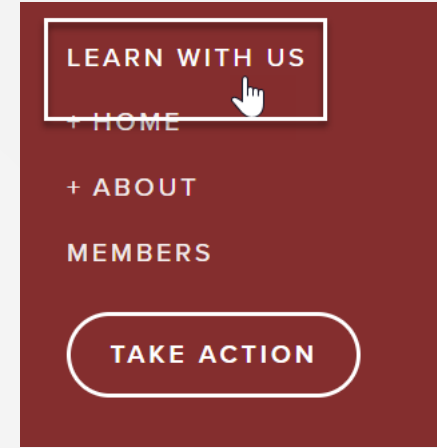
HAVE A GARDENING PROBLEM? ASK A MASTER GARDENER!



SUBSCRIBE TO OUR YOUTUBE CHANNEL-SEE WORKSHOPS YOU MISSED!



MONTH-BY-MONTH GARDEN TIPS



LANDSCAPE GARDENING



FRUITS



VEGETABLE GARDENING



LAWNS/TURF/PASTURE



COMPOSTING



POLLINATORS, SPIDERS, BENEFICIALS, INSECT PESTS



HOW-TO DEMONSTRATIONS- for adults and kids



WEEDS

Cowlitzcomg.com



Cowlitz County Master Gardeners



Follow Us On

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WSU Cowlitz Master Gardeners

WSU COWLITZ COUNTY EXTENSION

Master Gardeners



GARDENING AND PLANT PROBLEMS CLINIC

FREE
Ask us!
ADVICE



WSU EXTENSION
Cowlitz County



WHERE?

Three ways to reach us!

360-577-3014 Ext.1

cowlitzmastergardener@gmail.com

Extension Office: 304 Cowlitz Way, Kelso, WA



WHEN?

Email any time

Office: 10 am – 12pm Mar.-Oct.- MWF

Nov.-Feb.- Wed.

Send your photos. Bring your plant & insect specimens!



Why save seeds?

- Variety
- Increased self-reliance
- Reduced cost
- Connects our past to the future
- Helps maintain genetic diversity
- Grow best in OUR CLIMATE and SOIL



What we're going to talk about

- Important concepts
- Planning what to grow for seeds
- How to help ensure seed diversity and integrity
- How to save the seeds!





Seeds have stories to tell!

- Before 1900, 50% were farmers. Now, just 2%
 - Where did their seeds come from?
 - All cultivated vegetables started out as wild plants
 - How did they turn into what we eat today?
 - So what's the difference between wild plants and the vegetables we eat today?
- TEN THOUSAND YEARS!



Lettuce



Prickly lettuce, *Lactuca serriola*.
Photo by Jack Kelly Clark.



From this

to this





Seeds have stories to tell!

Abenaki Calais Flint corn—1816

Why was this corn the only one to survive?



Fedco Seeds <https://www.fedcoseeds.com/seeds/abenaki-calais-flint-organic-flint-field-corn-682>



Did you know?

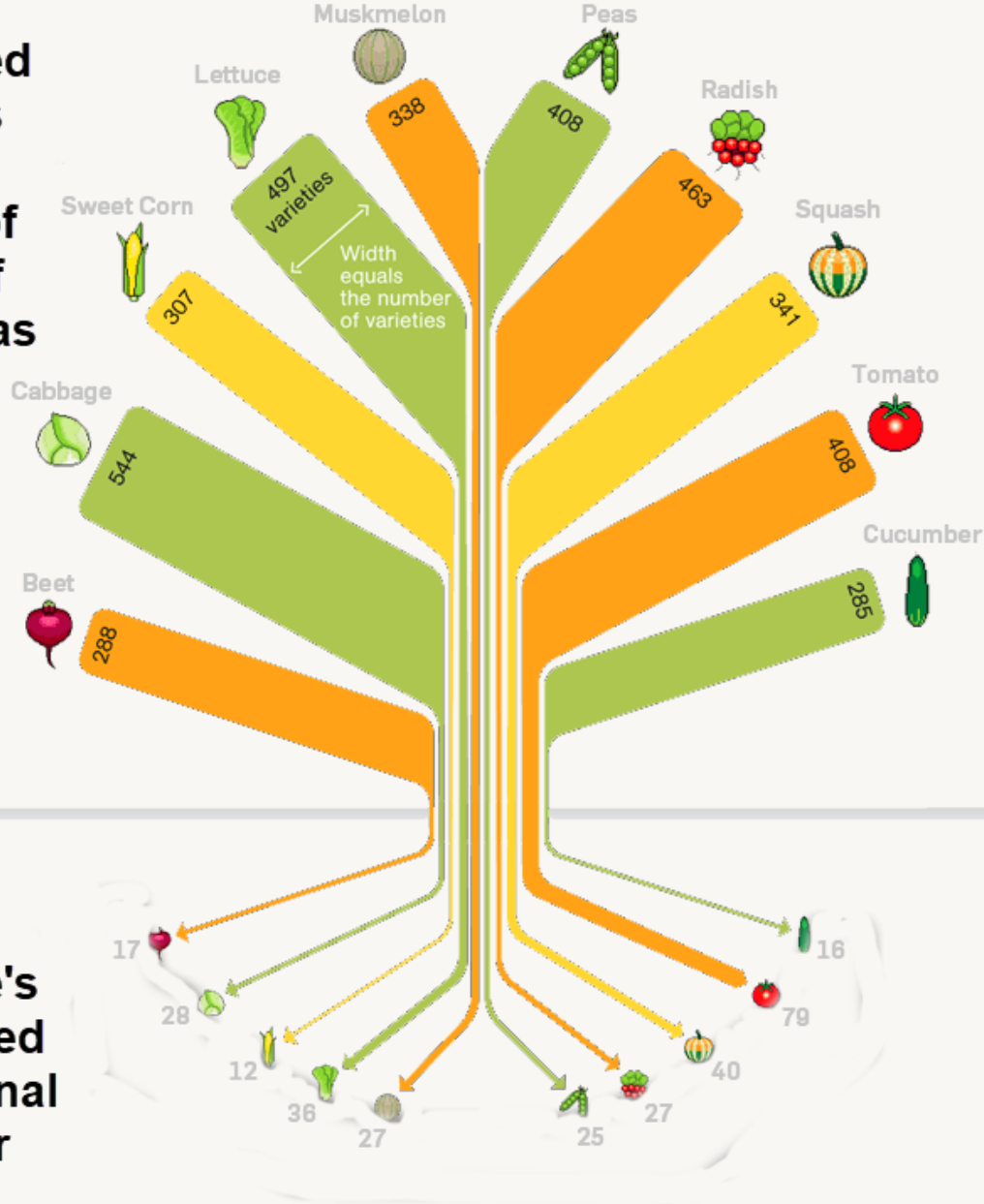
- Few people realize that less than 10% of all Vegetable and fruit varieties commonly grown in the US 1900 are still with us today
- Why? In the 1940s, we started to hybridize for shipping stability, consistent size, and attractive appearance, so those of us living in Ohio could have tomatoes in February



Varieties offered in seed catalogs in 1900 and compared it how many of these are remaining in 1983

In 1903, seed companies offered hundreds of varieties of crops such as these

In just 80 years, here's what's stored in the National Center for Genetic Resources Preservation





Did you know?

- 5 companies control 70% of the seeds being distributed. Seminis has 40% of the US market.
- Seminis DROPPED 2000 varieties one quarter of the types of seeds sold.
- Genetic diversity is disappearing, and we're going to help to bring it back!





Why are seed libraries important?

- Engage community in saving and sharing seeds that are grown for our soil, our climate.
- Promote biodiversity—lots of different kinds of plants that will be able to withstand what nature throws at it.
- Preserving our cultural heritage!
- “Whoever Owns the Seeds Controls Your Food Supply”

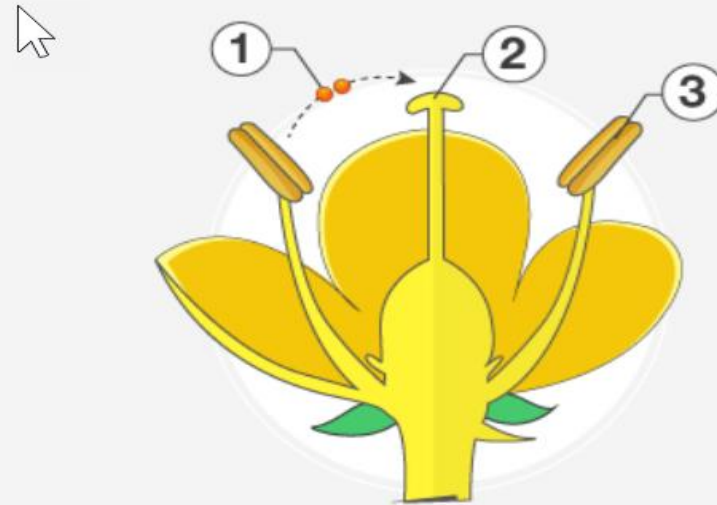


Seed terms—boring but important



SELF POLLINATION

BYJU'S
The Learning App



The pollination of a flower by pollen from the same flower or from another flower on the same plant.

1 Pollen | 2 Stigma | 3 Anther

<https://byjus.com/biology/difference-between-cross-pollination-and-self-pollination/>

- Only one plant needed for viable seeds!
- Male and Female parts on same flower or same plant





Excellent self-pollinators

Easiest for saving seed

lettuce

bean

pea

tomato

Mostly self-pollinating, but can also cross-pollinate

ground cherry

eggplant

pepper – sweet and hot

basil

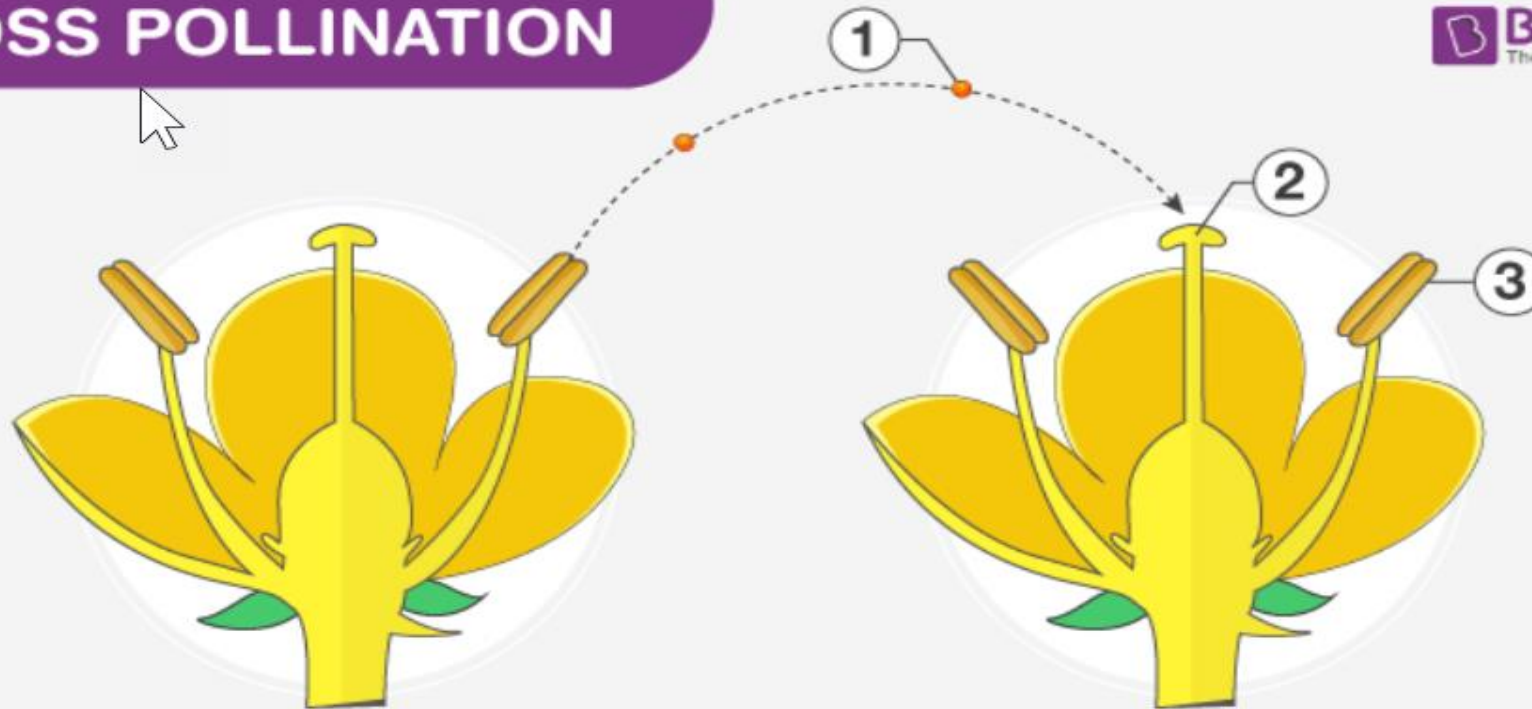
dill





Seed terms—boring but important

CROSS POLLINATION



Cross Pollination occur when pollen grains are transferred to a flower from a different plant.

1 Pollen | 2 Stigma | 3 Anther

<https://byjus.com/biology/difference-between-cross-pollination-and-self-pollination/>

- **Cross-pollination:** via wind or insects.



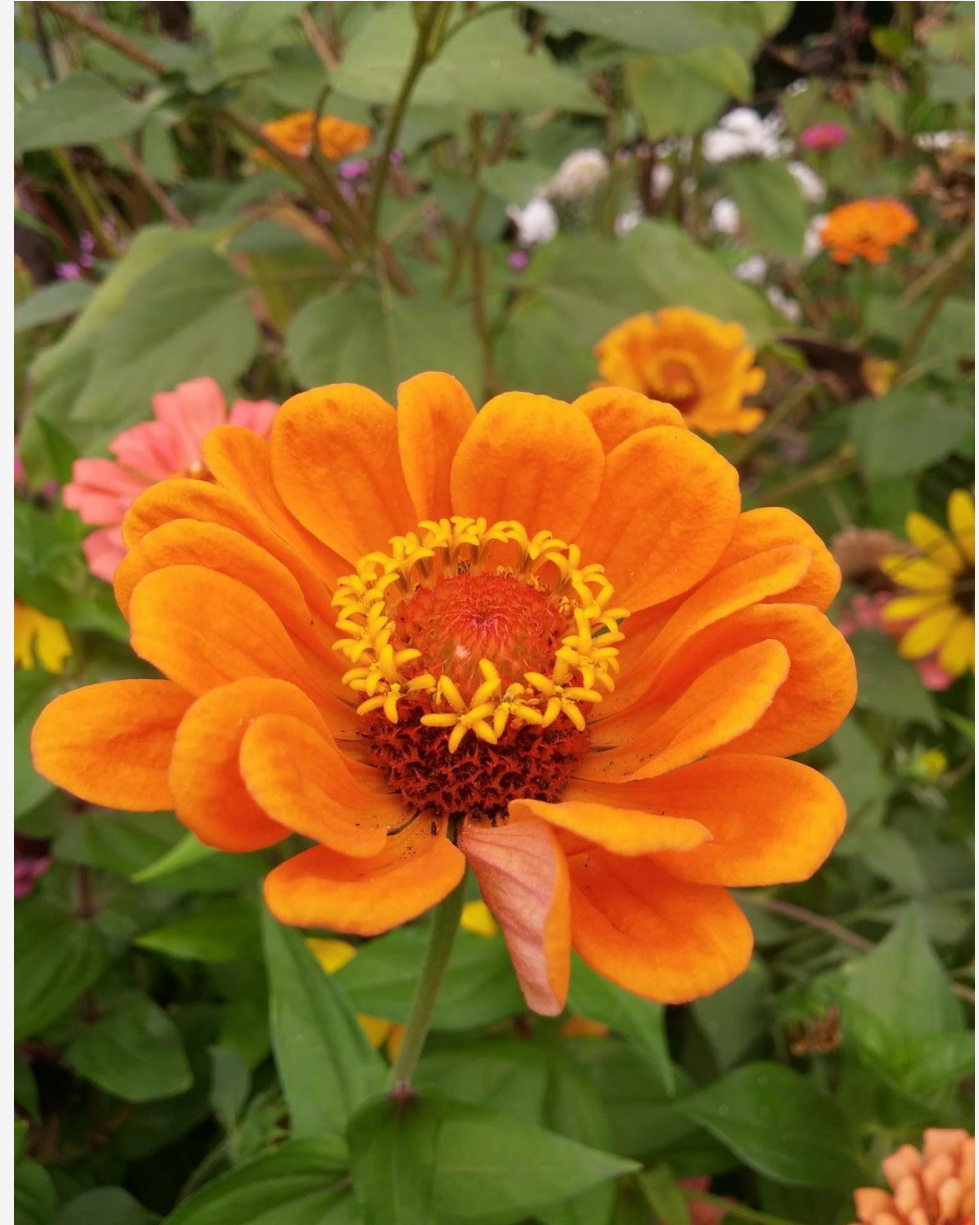


— Open pollination

Open pollination is the transfer of pollen that occurs naturally by wind, insects or birds.

OP occurs within a species, defined as a group of plants that are able to interbreed to produce fertile offspring.

Example: *Brassica oleracea* - brussel sprouts, collards, broccoli, kale, cabbage, kohlrabi



Boring but important



- **Open-pollination:** Any non-hybrid variety. Open pollination refers to seed produced without control of the pollen source
- All heirloom plants are open pollinated plants that have been stable, through many generations.
- If you plant seeds from an open pollinated plant, it will frequently breed “true,” be just like the parent plant (if self-pollinated or cross-pollinated by same variety)
- Tomatoes, beans, peas, and lettuce



Plants that must be cross-pollinated

Insect pollinated

- Broccoli, cabbage, collards, cauliflower brussel sprouts - *Brassica oleracea**
- Melons - *Cucumis melo*
- Cucumbers - *Cucumis sativa*
- Squash – *Curcubita spp*
- Carrots*
- Parsley*
- Rutabaga*
- Strawberry
- Tomatillo

- Radish*
- Turnip*
- Leeks/onions/garlic*
- Fennel
- Celery

Wind Pollinated

- Spinach (dioecious)
- Corn
- Beets/chard*

* biennial, second year

bloom

Incomplete pollination



Colleen Callahan





Cross pollination

The ability to self-pollinate does not guarantee a plant will grow true to the parent, unless exclusion is used

Plants with composite type flowers prefer to cross pollinate if others varieties of the same species are grown in close proximity.

To maintain purity of seed, grow only one variety of that species in a season, unless each can be isolated from the other.



Mother plant, pollen parent unknown 2017



The babies 2018



Colleen Callahan





The grand babies, second generation, 2022



Colleen Callahan



Seed terms—boring but important

Plants from the same SPECIES can pollinate each other

- Tomatoes: *Solanum lycopersicum*
- Eggplant: *Solanum melongena*
- Cucurbits--Squash, cucumber, melons (see list at end of handout notes)





Boring but important

- **Hybrids (F₁)** : Hybrids result from crossing between different varieties. The first generation (F₁) results from a cross of inbred lines. Seeds from a hybrid are often sterile and will not usually produce plants that resemble the hybrid (do NOT breed “true”).
- **Cultivars**: Selections resulting from human intervention.
- **Varieties**: Naturally occurring selections within a species.





Purchasing seed

Melon example:

- Two are hybrid
- Two are OP *and* heirloom
- Two can be successfully grown for seed, but only one per season, unless isolation practices are used



Divergent

DIVERGENT

(F1) 70–80 days. A hands-down favorite in our melon trials for its irresistibly sweet flavor. Light netting gives this melon the look of a Galia, but the thick layer of succulent orange flesh is all cantaloupe. Widely adaptable, Divergent performs extremely well in shorter seasons or regions with cool nights, producing an average of 5, 2 ½–3 ½ pound, round fruit per plant. HR: F 0–2. IR: PM 1–2, 5.

ML457G DIVERGENT ORGANIC

	20 seeds	50 seeds	250 seeds
	\$6.95	\$16.50	\$59.45



Tirreno

NEW TIRRENO

(F1) 80 days. Tirreno is an attractive Tuscan type melon that is high yielding and vigorous, ideal for organic gardens. The round, 2–3 pound, pale green, netted fruit have deep, dark green ribs that develop a yellow hue when they're ready for picking. Inside, a thick layer of orange flesh is sweet, flavorful and aromatic. Great disease resistance and shelf life. HR: F 0–2. IR: PM 1–2, 5.

ML476G TIRRENO ORGANIC

	20 seeds	50 seeds	250 seeds
	\$7.95	\$18.75	\$60.25



Minnesota Midget

MINNESOTA MIDGET

(OP) 65–70 days. This exquisite heirloom produces a bounty of early, and true to its name, mini cantaloupes. Fruit measure 4–6 inches across and have deep orange flesh that is succulent, sweet, and delicious down to the rind. The ultimate melon for short-season areas, and the compact plants are ideal for small space or container gardens. HR: F.

ML460C MINNESOTA MIDGET

	½ gram	3 grams	½ oz
	\$3.35	\$4.35	\$9.95

ML460G MINNESOTA MIDGET ORGANIC

	½ gram	3 grams	½ oz
	\$3.95	\$6.25	\$11.95



Oregon Delicious

NEW OREGON DELICIOUS

(OP) 80–90 days. We are very proud to offer this very rare, heirloom cantaloupe. Suited to short-season areas and particularly well-adapted to Oregon's cool summer nights, this oval-shaped melon offers up succulent, rich, honey-sweet, lush, orange flesh like no other. The 2–3 pound fruit are lightly netted with light ribbing.

ML477G OREGON DELICIOUS ORGANIC/BIODYNAMIC

	½ gram	3 grams	½ oz
	\$4.35	\$6.85	\$12.95

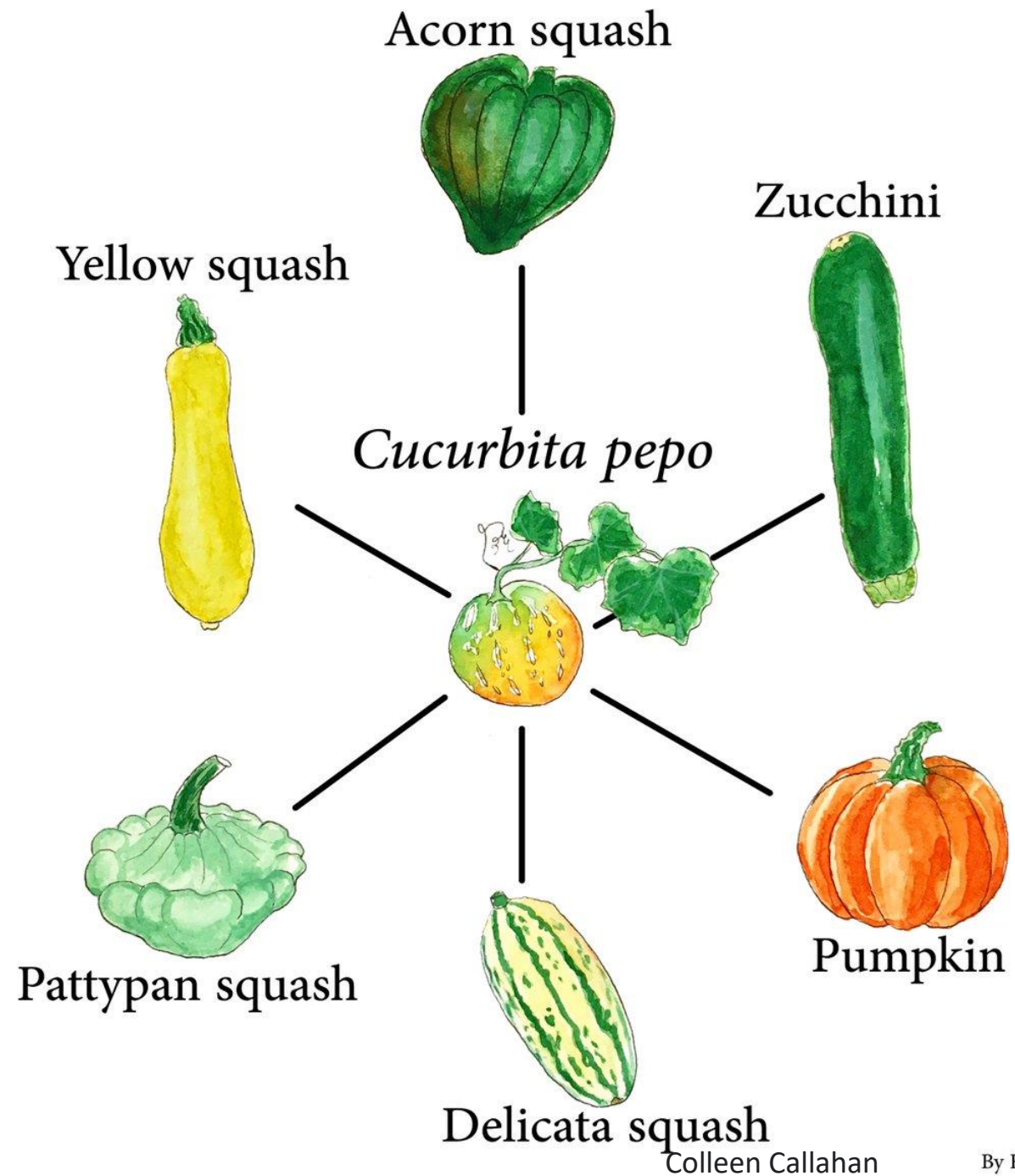


Colleen Callahan



Squash pollination

- *Curcubita pepo*
Zucchini, delicata, acorn, pumpkin, pattypan
- *Curcubita moschata*
Butternut, tromboncino
- *Curcubita maxima*
Kabocha, hubbard, buttercup, giant pumpkin



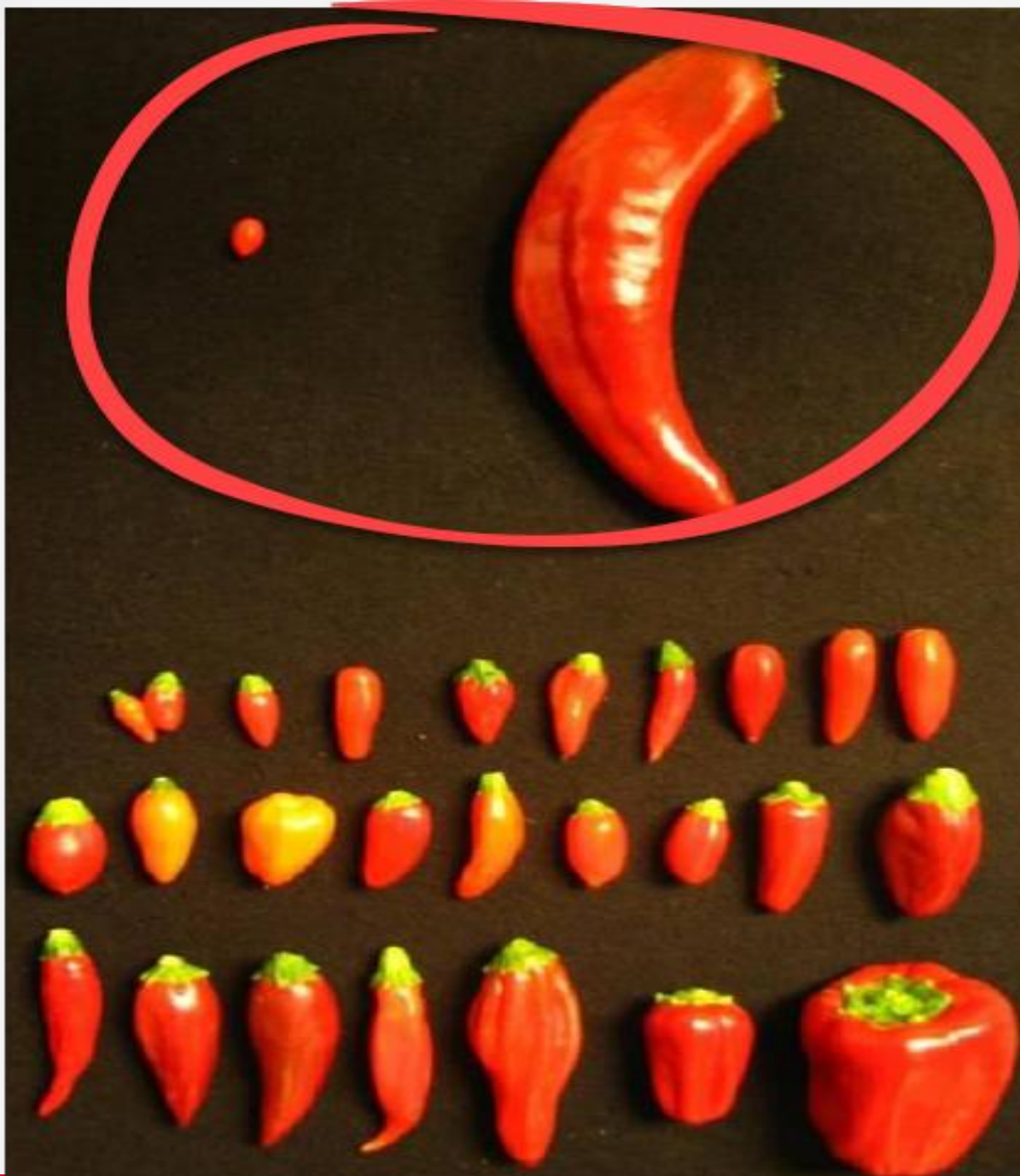


Hybrid: The result of cross-pollination between two varieties of the same genus and species.



Butternut + Cushaw = Hybrid





**These are the
results of
cross-
pollinating
the two
pepper plants
to the left**





=



Two more terms



- **Annuals**—complete the life cycle in one season—
 - plant seed in spring, flowers, grows fruit, fruit ripens, collect seed in fall
- **Biennials**—complete life cycle in two seasons.
 - Carrots—plant seed, carrot produces leaves while the root develops. You harvest the carrot in fall, but the plant does not develop flowers until the following summer if you replant your best carrot. You can collect seeds after it flowers the second year.





LIFE CYCLE OF A BIENNIAL: CABBAGE

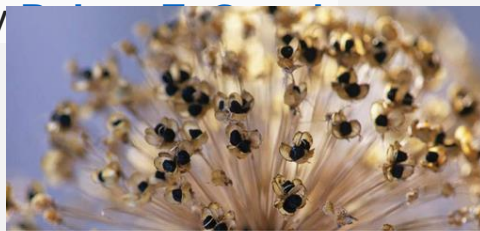
Credit:

The Complete Guide to Saving Seeds

322 Vegetables, Herbs, Fruits,

Flowers, Trees, and Shrubs

by



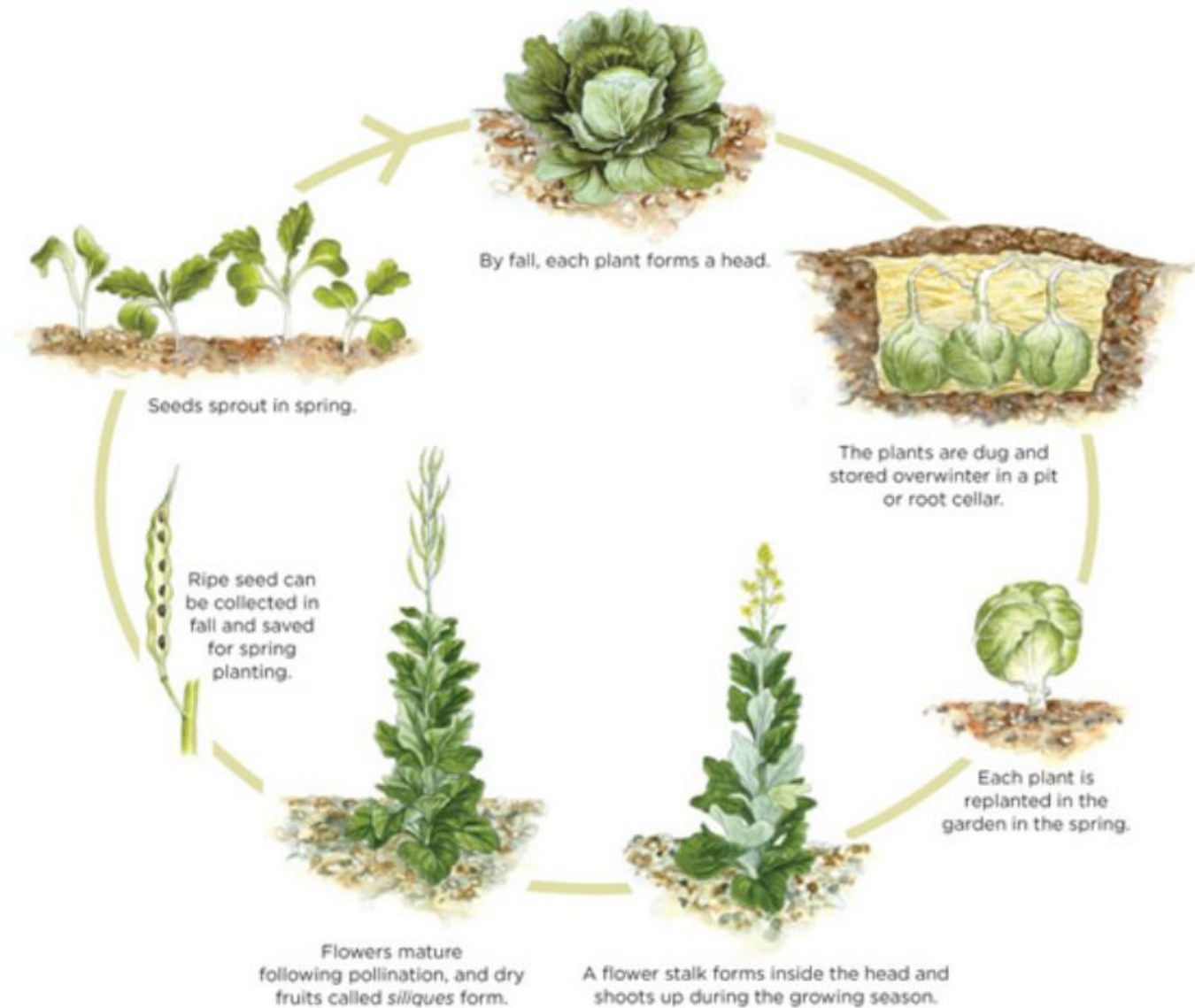
THE COMPLETE GUIDE TO
SAVING SEEDS

322 VEGETABLES, HERBS,
FLOWERS, FRUITS,
TREES, AND SHRUBS

- ◆ Preserve favorite tastes and scents
- ◆ Customize your garden plants
- ◆ Promote diversity



ROBERT GOUGH AND CHERYL MOORE-GOUGH





Afraid of making a “mistake?”

- While the goal of our Seed Library is to collect varieties “pure” seeds— (which will produce plants that are identical to parent), don’t be afraid to experiment!
- A cross pollination “mistake” should be viewed as an opportunity—Have fun!
- What do you have to lose? You can still eat your “mistakes” and you might even discover a better vegetable with your F₁ hybrid!





Self pollinating plants

- Tomatoes, beans, peas, and lettuce are good choices for seed saving because they are frequently self pollinated and complete growing cycle in one season
- If you save seed from an open pollinated plant and there has not been any cross pollination from another plant (of the same species) then you can expect the seed will produce the same plant next year.





Self pollinating plants

- Easy to grow and harvest seeds, and a great place to start.
- Tomatoes, beans, peas, and lettuce frequently do not need to be isolated to prevent cross pollination.
- However, to reduce the possibility of cross pollination, you can follow these guidelines .
- Peppers do cross pollinate to a greater degree.





Are you planting to eat or save seeds?

- Some plants need more room when they go to seed.
- Corn--plant in blocks instead of long rows.
- Rogue out poor performing plants.



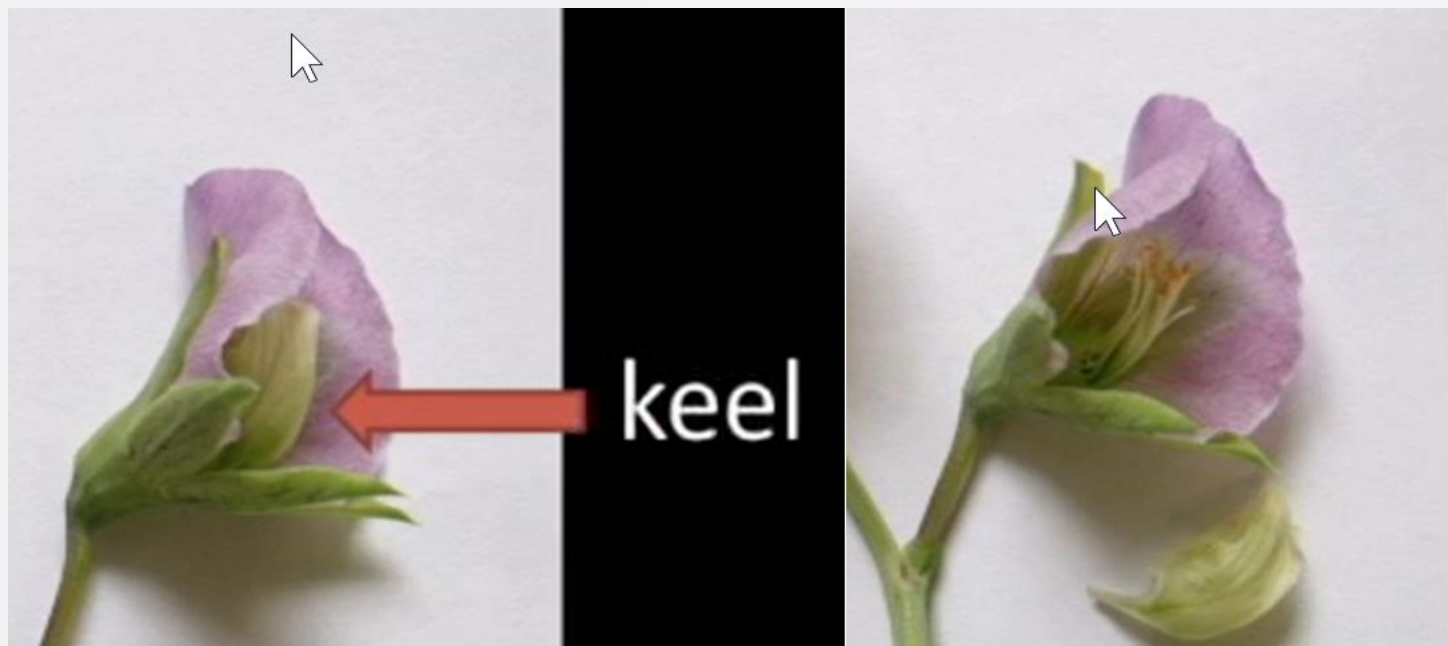


Selecting the best plant for seed-saving: What are your criteria?

- Disease and pest free
- Early ripening
- Slow bolting
- Good flavor
- Resistance to cracking
- Root size
- Hottest peppers (depends on climate, water and fertility)
- Hardiness



Self pollinating plants: Peas, Beans, Tomatoes, L



SSE Heritage Farm <https://www.youtube.com/watch?v=ngW0eOwkoIM>

Tap-tap-tap to aid
pollination



Lettuce self pollinates during development—as the stigma (female part) develops, it brushed on the anther (male part with pollen) and is pollinated that way.





Vegetable	Distance	Pollination notes	# of plants to maintain genetic diversity over time	Other isolation options
Tomato	10-50 feet		5-10	Blossom bags
Pepper	300 ft. to 1/3 mile	Cool night temps disrupts pollination	5-20	Hand pollinate and bag blossoms.
Lettuce	10-20 feet	Flowers usually open for a few minutes—rare to get insect or wind pollination	5-10	Blossom bags
Beans	10-20 feet	Usually self-pollinate before flower opens	5-10	netting
Peas	50 feet	Usually self-pollinate before flower opens	5-10	netting

Hand Pollination



https://www.veritable-potager.fr/558-large_default/pollination-brush.jpg



<https://seeds.ca/d/?n=ebulletin%2F2015%2F09%2Fbag.jpg>

Saving Seeds





Plants cross pollinated by wind or insects

- Much greater challenge to produce “true” plants with same qualities as parent
- Must plant a LOT of these or end up with “inbreeding depression”—weakening of a plant population by collecting seeds from too few parents
- Must isolate the flowers in some way.



ISOLATING plants cross pollinated by wind or insects



- Time isolation—plant early and late varieties—don't flower at same time
- Distance isolation—each plant has a distance requirement—charts available
- Physical landscape barriers—buildings, fences, hedges may influence insect highways and wind.
- Mechanical Isolation--bagging, caging



ISOLATING plants cross pollinated by wind or insects

- Blossom bags and tents-eggplants, peppers, BEFORE blossom open! Shake daily if not hand pollinated.



<https://www.seedsavers.org/isolation-methods>



<https://www.seedsavers.org/isolation-methods>

Saving Seeds





Isolation tools



HRX Package 100pcs White Organza Bags, 4 x 6--\$8.99





And if you're serious!



SSEHeritage Farm <https://www.youtube.com/watch?v=MU3sl84x-xk>



ISOLATING plants cross pollinated by wind or insects

- Hand pollination—good for home garden—cucumbers, squash, corn



<https://homesteadandchill.com/hand-pollinate-squash/>





How to hand pollinate squash



<https://s3.eu-west-2.amazonaws.com/growinginteractive/blog/squash-male-and-female-flowers-2x.jpg>





How to hand pollinate squash

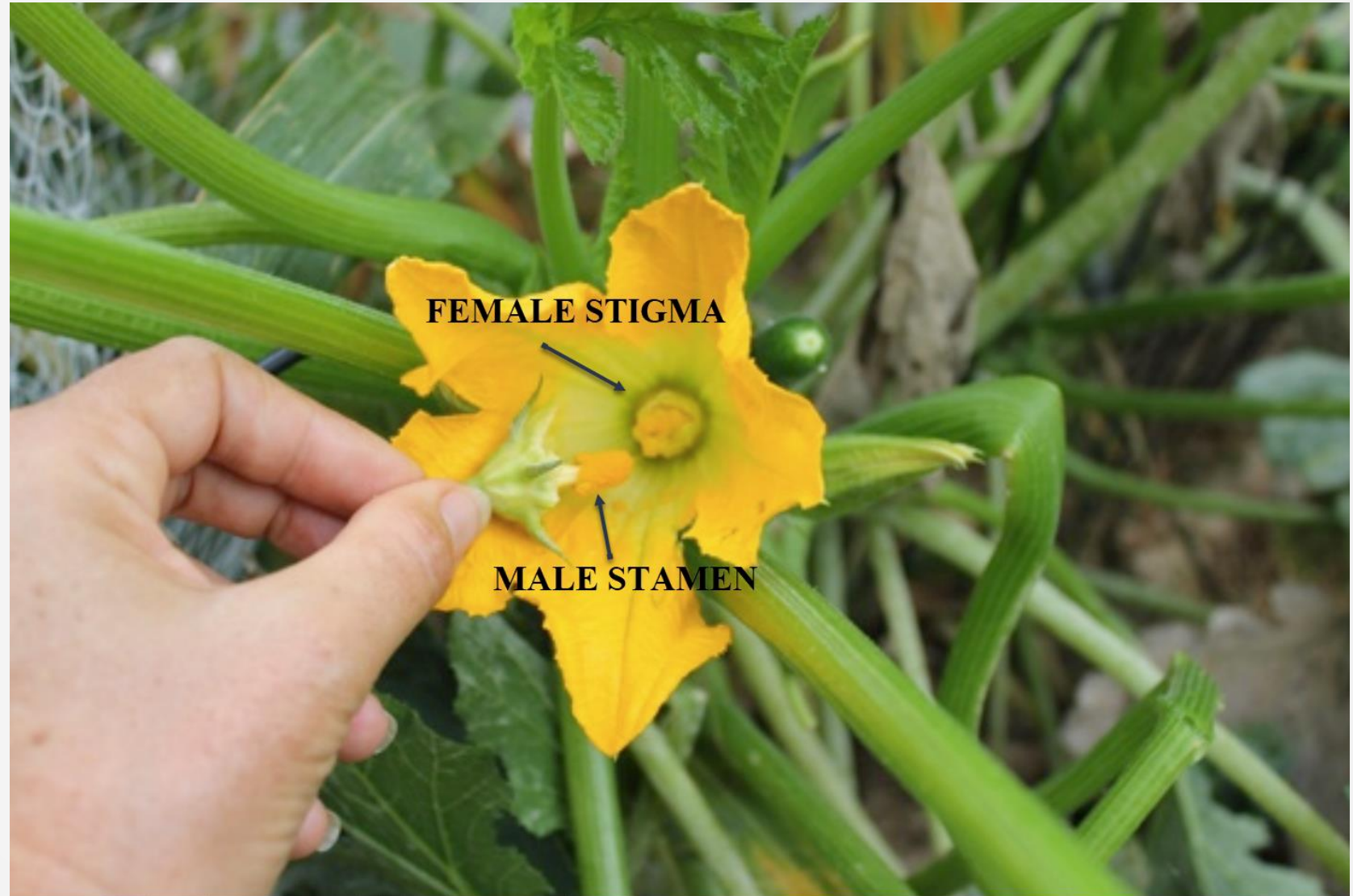


<https://www.growveg.com/guides/hand-pollinating-squash-for-higher-yields-and-seed-saving/>



How to pollinate squash

- EARLY morning-
- Fresh female/male blossoms
- Close up immediately
- Fertilization done by noon!



<http://theveggielady.com/wp-content/uploads/2014/02/zucchini-pollinate.jpg>

Saving Seeds



How to pollinate squash



<https://www.missouribotanicalgarden.org/Portals/0/Gardening/Gardening%20Help/images/slideshows/ss00006ct.jpg>



<https://www.missouribotanicalgarden.org/Portals/0/Gardening/Gardening%20Help/images/slideshows/ss00008ct.jpg>

Saving Seeds



How to pollinate squash

POLL--What seeds will you save seeds from



FIGURE 3. Tie female flowers far enough down the petals that the top is completely sealed but not so far that stigma is bruised by the tie

<https://www.seedsavers.org/site/pdf/squash-hp.pdf>



FIGURE 2. Tear a piece of tape off roughly 4" long, place the tape half-way down the petals, and fold over. Give a good press to the sides that you just stuck together so the seams are completely sealed, being careful not to damage the flower.

<https://www.seedsavers.org/site/pdf/squash-hp.pdf>



<https://s3.eu-west-1.amazonaws.com/growinginteractive/blog/isolating-squash-seed-saving-2x.jpg>





How to store GOOD DRY seeds- The BASICS

- Harvest from HEALTHY, VERY MATURE plants—the best specimen you have
- observe plants for desirable traits - highest productivity, early fruit/bloom, disease resistance crack resistance, appearance, flavor, growth habit.
- Seeds must be CLEAN AND DRY





Not mature



Mature and ready for harvest



Colleen Callahan



Colleen Callahan



Colleen Callahan



Over-ripe cucumber that has nearly reached physiological maturity. Seeds are mature and ready for pre-storage treatments.



Under-ripe cucumber, immature seeds





How to store GOOD DRY seeds

- Use moisture-proof, airtight containers such as jars, foil or waxed packages.
- Store seeds in dry, cool and dark conditions.
- Label containers carefully with variety and date –seed longevity 1-5 years





Is the seed DRY? Bend vs Snap test





Surefire way to ensure dry seed

- Bake 1 cup rice in the oven for 45 minutes until it is bone dry.
- While it is still hot, put it in a pint (2-cup) glass jar, and screw the lid on
- Allow rice to COMPLETELY COOL.
- Put seeds in a thin sock, secure with rubber band.
- Place sock in jar, screw lid on tight for 24 hours





Let's save some seeds!

- START SMALL!
- Grow something that you LOVE
- Hands-on—trial and error—still the best way to learn!





Let's save some seeds!

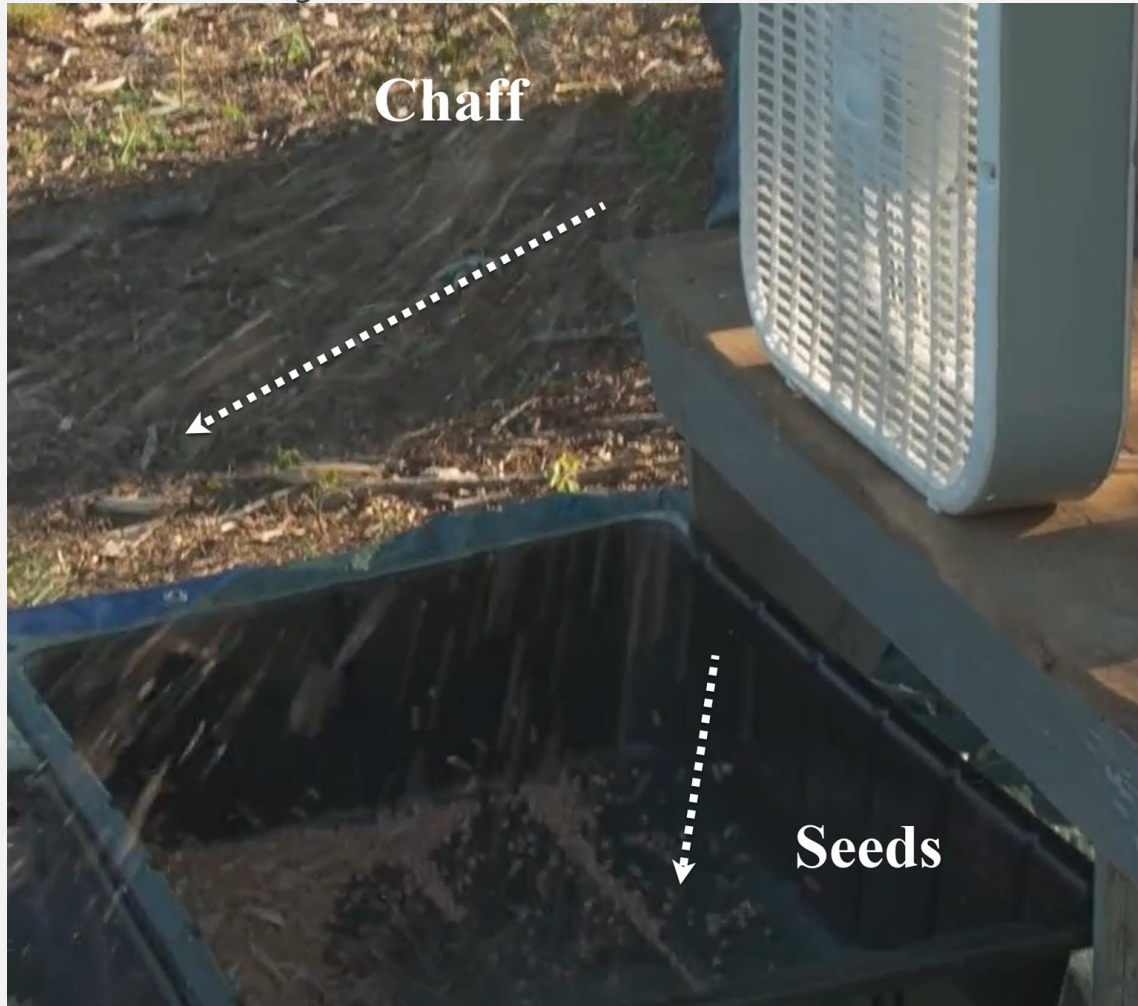
- Peas, Beans, Legumes
- Lettuce
- Solanaceous vegetables (tomatoes, eggplants, peppers)
- Brassicas (kale, broccoli, Brussels sprouts, cabbage, cauliflower, spinach, chard, beets)
- Cucurbits (cucumbers, melons, squash)



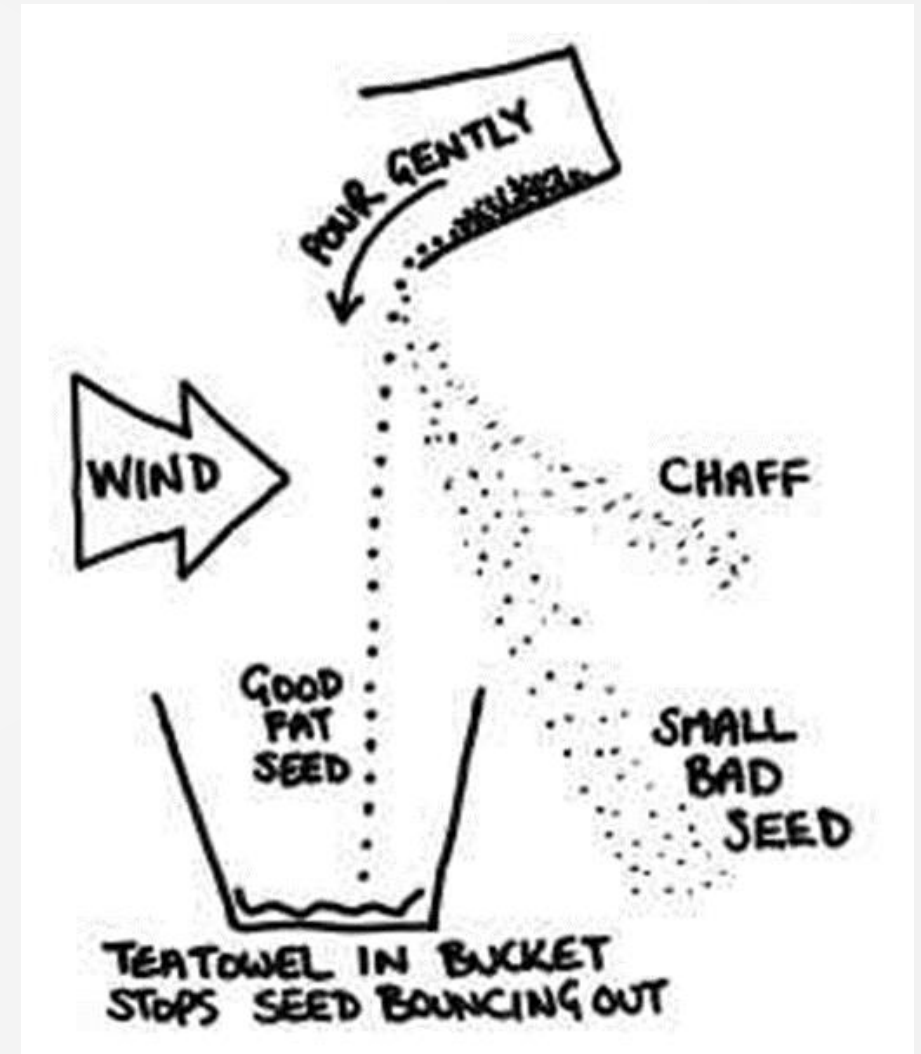


Separating seed from chaff

- Winnowing—use a breeze or fan



<https://www.growingagreenerworld.com/episode224/>



Separating seed from chaff



- Hardware cloth frame—rub seed head/pod over frame—seeds in box, chaff on top of frame



<https://driftlessprairies.org/wp-content/uploads/2013/10/DSCF8518-1024x768.jpg>

Saving Seeds





Large holes to small



SSEHeritage Farm <https://www.youtube.com/watch?v=MU3sl84x-xk>





Dry Seeds

- E.g. Peas, beans, lettuce, brassicas (cabbage family), carrots, herbs,
- Harvest seeds when completely mature and dry
- Store the seed heads/pods in a dry area—garage—until they get crumbly
- Crumble the seed heads/pods in a bowl
- Separate seeds from chaff by screening or winnowing





Wet seeds with no pulp

- E.g., peppers, eggplants, squash, melons
- Keep on plant until they are over-mature
- Allow squash to continue to mature off the vine before harvesting
- Gather seeds
- Rinse well, pat to dry, finish drying on a plate or coffee filter.





Wet seeds surrounded by pulp

- E.g., Tomatoes and cucumbers
- Harvest fruit when fully ripe on vine. Cucumbers should be turning yellow.
- Cut fruit open and squeeze out seeds and pulp into a jar. Add enough water to cover seeds.
Cover with wax paper or paper towel.
- The mixture will ferment, and turn moldy. This will help to remove the seed coat.
Stir gently a couple times a day.



Wet seeds surrounded by pulp



- After 3-6 days, moldy pulp and bad seeds will float to the top.
- Carefully pour off moldy material
- Add water, rinse seed. If any seeds float to the top, discard them.
- Use strainer to catch seeds, rinse again.
- Place seeds in a single layer on a non-paper plate to dry—may take 3





Beans & Peas



SSE Heritage Farm <https://www.youtube.com/watch?v=GHC0IAkc-hY>

Beans, Peas, Legumes

- Pods should be allowed to dry on the vine
- Plants should be totally dry—stems, leaves, and pods
- Dried pods need to be very dry, thin, and papery.
- Break over bowl
- Store seed in a freezer for 7-10 days to kill any weevils. Seed must be totally dry to prevent damage from the freezing process.



Lettuce

- For seed saving, you may harvest a few
- outer leaves before lettuce bolts
- Seeds are ready 21 days after bloom.
- To harvest, vigorously shake the seed head into a bag every day during that period. The loose seed will fall into the bottom of the bag.
- An alternate method -wait until about 10 days after flower and then cut the whole plant. Place the seed head upside down into a bag. When the seed head is totally dry, vigorously shake while seed head is still in the bag

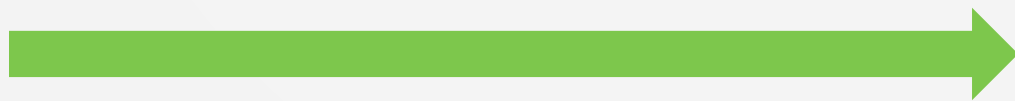




General directions for saving seeds from fleshy veggies

- Each veggie has particular way to harvest seeds.
- Seeds need to have gel-coating removed by soaking in water.
- Immature seeds and pulp float to top, mature, GOOD seeds sink to bottom.
- Pour off pulp, saving mature seeds.
- Add fresh water to jar, repeat until water is clear.

NEXT



Saving Seeds





General directions for saving seeds from fleshy veggies

- Drain in sieve, dry bottom of sieve
- Place on glass or plastic plate
- Put seed in a dry, warm place (not hot) out of direct sunlight.
- Stir the seed twice a day until completely dry, about 1-2 weeks.
- Bend vs Snap test, moisture-proof container
- Store in cool, dry, dark place



CUCUMBERS and MELONS

- fruits need to be very large
- hard skin
- change color from green to yellow or orange.
- Save seed from half the cucumber near the blossom end. Seed near the stem are usually immature.
- Scrape seed and gel out of fruit into a bowl of water.





SUMMER AND WINTER SQUASH

- Winter squash - fully ripe
- Stored at room temperature for 1-2 additional months before harvesting seed.
- Zucchini and summer squash -very large & over ripe, hard skin that has changed color. In long varieties, save seeds only from fruit furthest from the stem
- Store at room temperature for 3-4 additional weeks.
- In the squash cavity, work seeds between your fingers to release from the pulp.



EGGPLANT

- Fruits need to be very over-mature
- Leave ripe fruits on the plant for 4-5 extra weeks to allow seeds to fully mature.
- color should change to tan or brown
- tough, dulled skin
- Save seed from bottom 1/3 of the fruit. Seeds closer to the stem will be immature.
- To separate seed from the flesh use a box grater.



Peppers

- Very mature fruits.
- The color change from green to red, orange or yellow
- Fruits -dull and slightly soft, but not rotten
- Cut through the shoulder of the fruit and gently scrape the seeds from the fruit, and spread them out to dry
- Hot peppers can be left on the plant until most of the fruits are dry, then pull the plants out with the roots intact and hang upside down in a warm dry area to store until using.



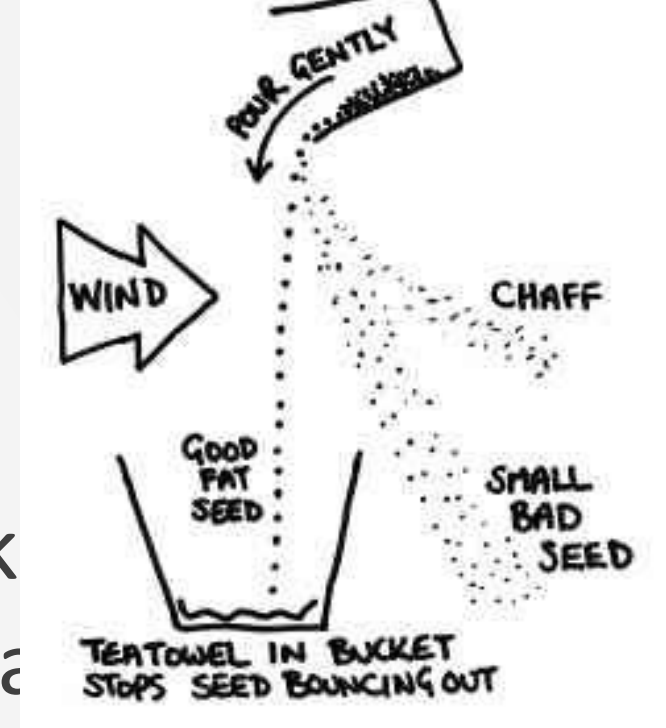
TOMATOES

- Wash very ripe and fully mature fruits, cut horizontally
- Squeeze seeds and surrounding gel into a jar with 1:1 water/pulp
- Set the bowl aside for 2-4 days out of direct sunlight.
- Allow the seed mixture to sit until the surface is partially covered with whitish mold (in three to five days).
- Scrape off the white mold with a spoon, being careful not to remove seeds.
- Fill the container with water, then stir; the good seeds will sink to the bottom



Brassicas

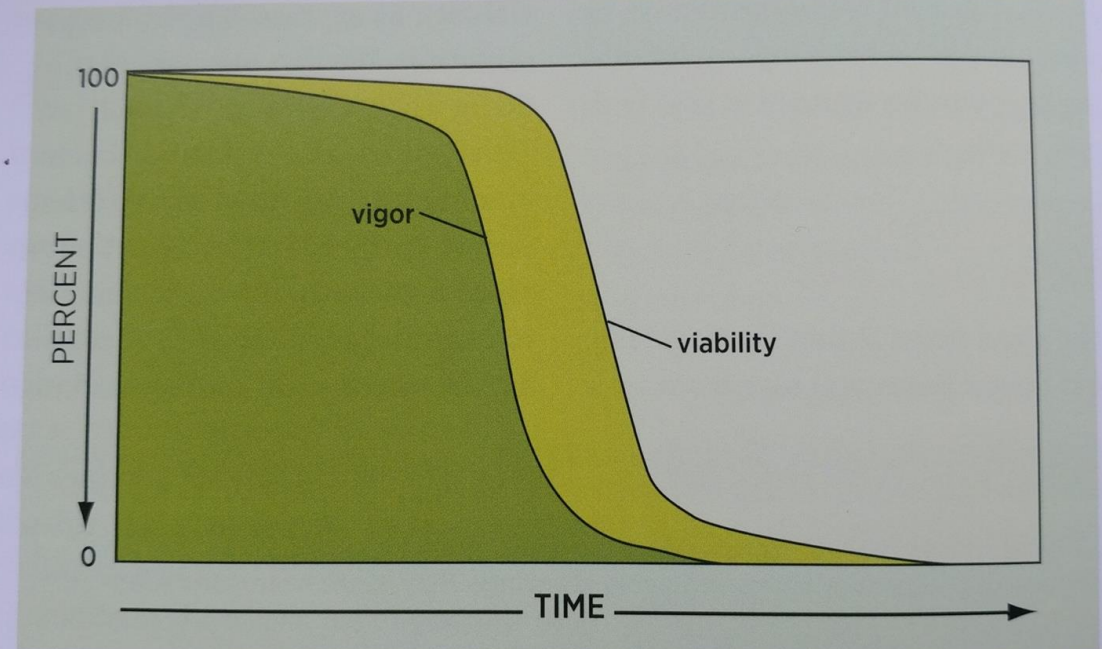
- Love to cross pollinate with each other, only let ONE plant go to seed
- Harvest when seed pod halfway up the stalk is full of seed that have plumped up as much as they are going to, and are just starting to go brown
- Hang flower stalks up to dry
- Then break open over a bowl
- Use a sieve to screen bits of pod, or let wind winnow it





How long do seeds last?

- Species
- Harvesting at the right stage
- Proper cleaning
- Proper storage – moisture and humidity are the #1 factor





Storage Temperatures

- Use moisture-proof, airtight GLASS containers
- Store seeds in dry, cool and dark conditions.
- Label containers carefully with variety and date –seed longevity 1-5 years



Storage Temperatures

- **Refrigerator** - medium term storage
- **Freezer** - good for long term storage of seeds.
- Moist seeds will freeze.
- Seeds must be in air-tight container and must be very dry.
- Allow to reach room temperature before opening container.
- Freezing will kill any hitchhiking insects or eggs
- Note:

For each 10% decrease in seed moisture, life of seed doubled

For each 10° decrease in temp, life of seed is doubled.



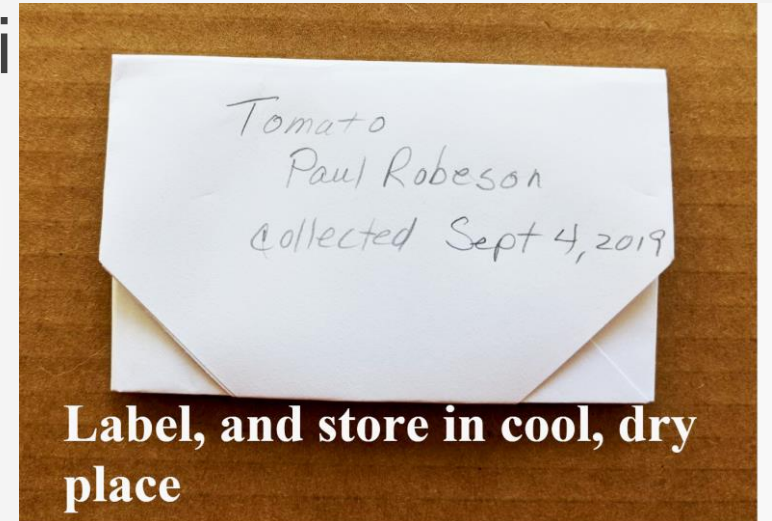
Storage Times

- Most vegetables = 3-5 years if stored properly
- Short lived seeds = onions, leeks, parsnips

LABELING

- Type of plant
- Variety name
- Year seeds were last grown
- Maturity days
- Height/habit/fruit size/color/disease resistance, etc.
- Great link for storage times for various seeds:

<https://ucanr.edu/sites/cetrinityucdavis.edu/files/258734.pdf>





Storage life of seeds--summary

- **1 year:** onions, parsnips, parsley, salsify, and spinach
- **2 years:** corn, peas, beans, chives, okra, dandelion
- **3 years:** carrots, leeks, asparagus, turnips, rutabagas
- **4 years:** peppers, chard, pumpkins, squash, watermelons, basil, artichokes and cardoons
- **5 years:** most brassicas, beets, tomatoes, eggplant, cucumbers, muskmelons, celery, celeriac, lettuce, endive, chicory





Take it home!

- Start small
- Know your plant—annual, biennial, self pollinated, cross pollinated, or hybrid
- How to isolate your blossoms from cross pollination
- How to harvest, dry, and store seeds.





Resources:

***Seed to Seed: Seed Saving and Growing Techniques for Vegetable Gardeners*, 2nd Edition - by Suzanne Ashworth**

***The Complete Guide to Saving Seeds: 322 Vegetables, Herbs, Fruits, Flowers, Trees, and Shrubs* - by Robert E. Gough & Cheryl Moore-Gough**

Vegetable cross-pollination guide: <https://theseedbank.net/articles-info-how-tos/vegetable-cross-pollination-guide/>

Heirloom Seed Library 2017 and Seed Saving Instruction Guide

Available: <https://s3.wp.wsu.edu/uploads/sites/2083/2015/05/HG-Seed-Catalog-2017-2-small.pdf>

Seed Saving, University of Minnesota <https://extension.umn.edu/planting-and-growing-guides/saving-vegetable-seeds#harvesting-823210>

Open Source Seed Initiative: <https://osseeds.org/> Seed List: <https://osseeds.org/seeds/> Colleen
Special thanks to Colleen Donahue, WSU Extension King County Master Gardener



Questions?



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WSU EXTENSION
Cowlitz County



For information about becoming a **WSU Extension Master Gardener** in **Cowlitz Co.**, contact Gary Fredricks, garyf@wsu.edu, 360-577-3014 ext. 3



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<http://mastergardener.wsu.edu/>